Hurricane and Severe Storm Sentinel (HS3) Mission

2013-08-01 Flight Report

This was the 1st test flight of AV-6 for the HS3 2013 campaign from DFRC. The GH was flown from the GHOC at DFRC, while the payload was operated from the GHOC-E at WFF. The mission is a simple range flight that is meant to test the aircraft and payload at altitude. The plan was to do a few dropsonde releases in the range and then do a racetrack orbit of the restricted air space to the north of DFRC

Flight Scientist: G. Heymsfield, S. Braun

1234 EDT Engine start

1400 EDT take-off

Climb to 18,000 ft

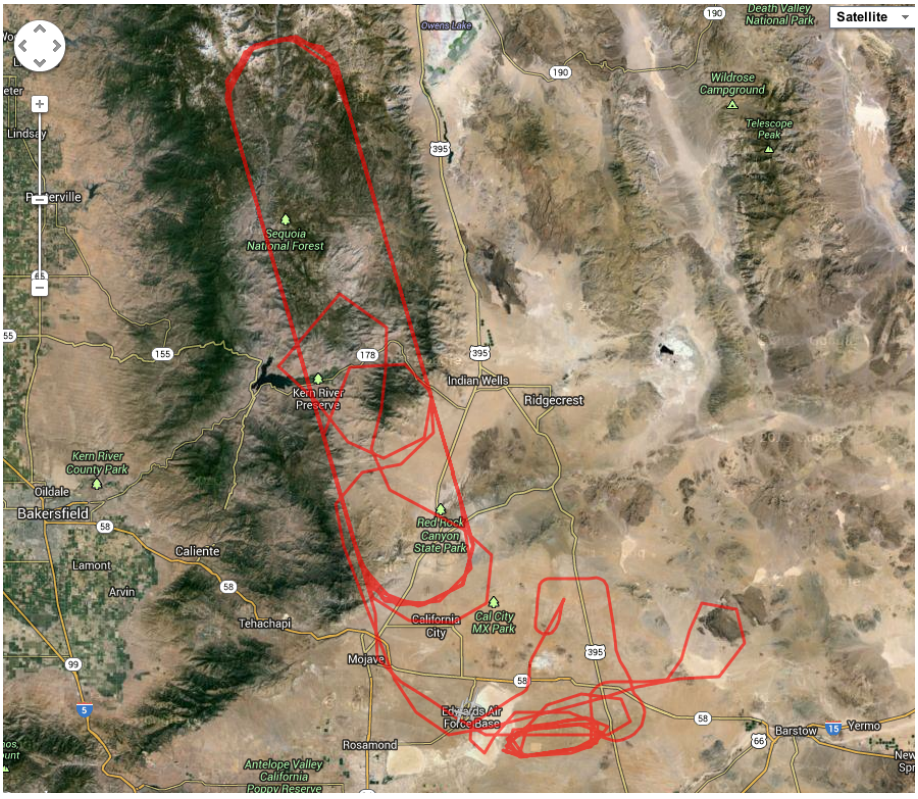


Figure above shows the AV-6 range flight track.

1411 UTC simulated dropsonde release run

1419 UTC – sonde released

For second sonde, lost NASDAT link. Sonde finally released at 1439 UTC.

1447 UTC – third sonde released

1457 – fourth sonde released

1459 UTC – Climb to 55 kft.

HDVIS wasn't fed to MTS because we were in the range. After we moved out of the Pyra and were at altitude, HDVIS was turned on.

Pilots practiced hand offs between GHOCs and we cold soaked until 1740 UTC.

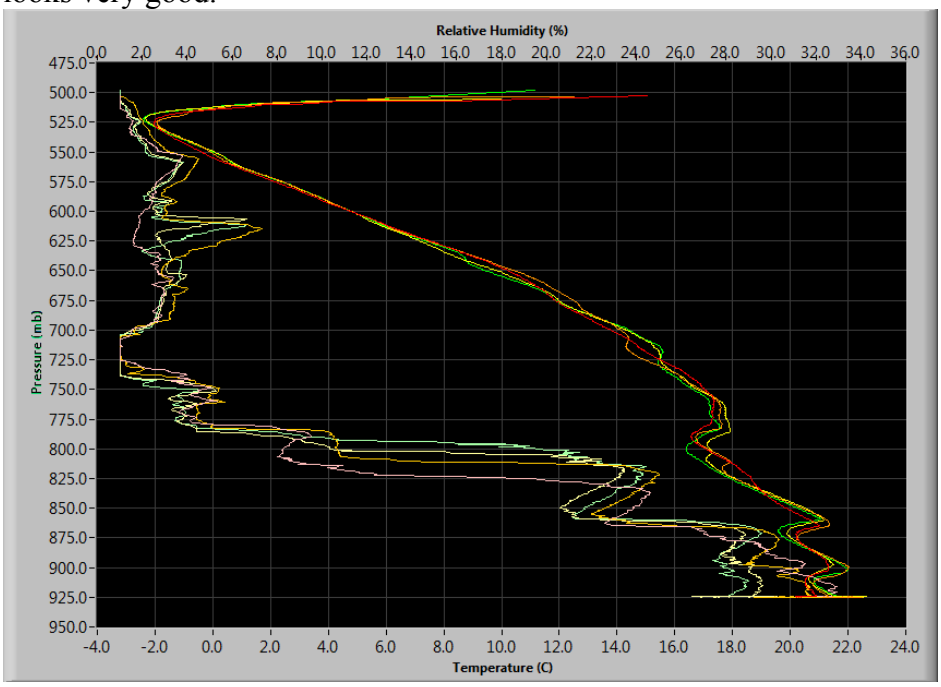
Descent started at 1800 UTC.

Instruments shut down by 1850 UTC.

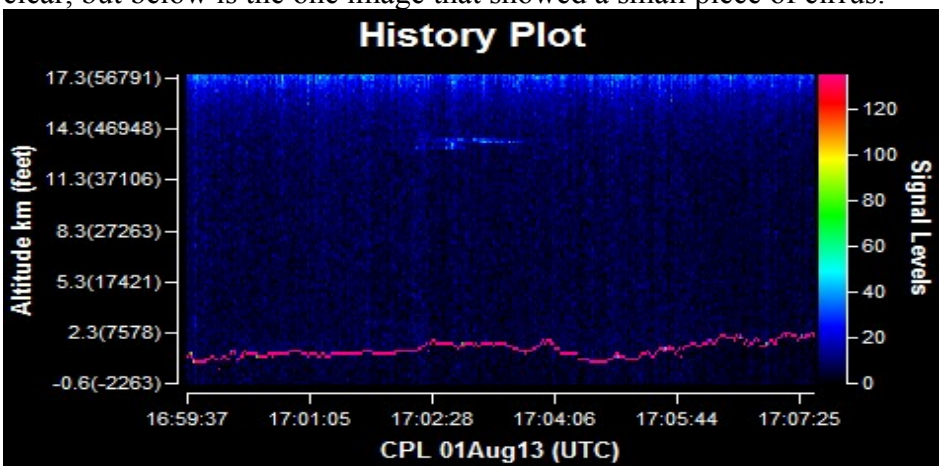
Landing at 1901 UTC.

Four sondes were released over Edwards from 18,000 ft. MSL shortly after take off. All aspects of the system appeared to work well: sondes, launcher, AC data system, AGS software ground control, ftp'ing D-files to the ground. The flight operations were controlled at GHOC East in Wallops. The telemetry was very good but this is expected since the launch altitude was only 18K ft. Analysis of the AVAPS spectrum analyzer file is required to evaluate if moving the sonde antenna on the aircraft has improved the noise situation or not.

Below are sounding plots of the 4 drops. Overall, all aspects of the system worked good. Detailed data analysis of all the files is required to insure the system is ready for HS3, but it looks very good.



The CPL team had an excellent test flight. All instrument systems operated nominally. The various temperatures were stable and the lidar signals were strong and stable. The CPL team was getting their real-time quicklooks once per sec through Ku and were producing curtain plots from that. These were successfully pushed to MTS every 5 minutes. The weather was severe clear, but below is the one image that showed a small piece of cirrus.



SHIS had a successful range flight. The instrument preformed well and they received all of the status, SOH, and DRSH packets on their computer in the GHOC-E. Wisconsin was not receiving all of their DRSH packets and thus the real-time products on MTS had some issues. The SHIS team worked with Caitlin on the dropouts to Wisconsin during the range flight.